

AMENDMENTS TO THE SPECIFICATION:

Please replace the paragraph beginning on page 1, line 4 with the following rewritten version:

-- This application is related to previously copending application Serial Number 10/437,007, filed May 14, 2003, now U.S. Patent No. 6,837,354 patented January 4, 2005, commonly assigned with the present invention. --

Please replace paragraph [0011] beginning on page 11 with the following rewritten version:

Fig. 1 and Fig. 2 are cross-sectional views of a clutch disk assembly 101 in accordance with a preferred embodiment of the present invention, and Fig. 3 is an elevational view of the same. The clutch disk assembly 101 is a power-transmitting device used in a clutch device of a vehicle (especially a FF, front engine and front drive, car), and has a clutch function and a damper function. The clutch function is provided to transmit and interrupt power by connecting and disconnecting with a flywheel (not shown). The damper function is provided to absorb and attenuate torque fluctuations supplied from the flywheel side by springs, etc. In Fig. 1 and Fig. 2, O-O represents the rotating axis of the clutch disk assembly 101. The engine and the flywheel (not shown) are located on the left side of Fig. 1, and the transmission (not shown) is located on the right side of Fig. 1. Arrow R1 in Fig. 3 represents the drive side (positive rotational direction) of the clutch disk assembly 101, while arrow R2 represents its opposite side (negative rotational side). Unless otherwise indicated, the “rotational (circumferential) direction,” the “axial direction,” and the “radial direction” mean

each direction the clutch disk assembly 101 as a rotating member in the following explanation. --

Please replace paragraph [0022] beginning on page 16 with the following rewritten version:

-- As seen in Fig. 3, window openings 143 and 144 are formed in the outer periphery 108b of the flange 108 to correspond respectively with the windows 141 and 142. In other words, multiple, preferably four, window openings 143 and 144 are formed along the circumferential direction in the same radial position as the windows 141 and 142. The pair of window openings 143 located apart from each other in the vertical direction in Fig. 3 and Fig. 5 is called first window openings 143, and the pair of window openings located apart from each other in the horizontal direction in Fig. 3 and Fig. 5 is called second window openings 144. Each window opening 143 is an opening punched through axially and extends in the circumferential direction. As seen in Fig. 5, each window opening 143 has an outer periphery supporting part 163, an inner periphery supporting part 164, and [[a]] rotational direction supporting part 165. The outer periphery supporting part 163 connects to the rotational direction supporting parts, which connect to the inner periphery supporting part 164. In an elevational view, the outer periphery supporting part 163 and the inner periphery supporting part 164 are curved in the circumferential direction. The rotational direction supporting part 165 extends substantially straight along the radial direction and, more specifically, the rotational direction supporting part 165 is parallel to a straight line connecting the center of the window opening 143 in the rotational direction and the center O of the clutch disk assembly [[1]] 101. The rotational direction supporting part 165 on the rotational direction R1 side has a rotational direction concave part 165a formed on the inner periphery side. The

rotational direction concave part 165a is slightly indented toward the rotational direction R1 side relative to the part on the outer periphery side. A radius direction concave part 164a is formed in the middle of the inner periphery supporting part 164. The radius direction concave part 164a is indented toward the inside of the radial direction relative to both sides in the rotational direction. --

Please replace paragraph [0034] beginning on page 22 with the following rewritten version:

-- Referring to Fig. 1, as can be seen from the above, the bush 151 and the plate 152 not only abut each other in the axial direction, but also engage each other in the rotational direction to constitute a single member (the intermediate rotating member 110) that rotates as a unit. Since the axial distance between the bush 151 and the plate 152 is larger than the axial thickness of the flange 108, both axial sides of the flange 108 are interposed by the members 151 and 152. Thus, the intermediate rotating member 110 is made of two members, i.e., the bush 151 and the plate 152, and the bush 151 has a protruding part 151a that engages with the plate 152. Hence, it is possible to omit ~~the~~ a conventional auxiliary pin ~~in the prior art design,~~ resultantly reducing the number of parts and the total cost. --

Please replace paragraph [0040] beginning on page 25 with the following rewritten version:

-- The small coil spring 161 is provided radially inside the second elastic member 131. Moreover, the coil diameter and free length of the small coil spring 161 are substantially shorter than those of the second elastic member 131 and their center positions match approximately in the rotational direction. Therefore, both ends of the small coil spring

161 in the rotational direction are located inside second elastic member 131 in the rotational direction. The small coil spring 161 is stored inside a window opening [[8e]] 108e of the inner periphery [[8a]] 108a of flange [[8]] 108 as shown in Fig. 6. In other words, both ends of the small coil spring 161 are supported by both ends of the window opening 8e in the circumferential direction. Moreover, the spring support parts 151e and 152e are provided on both the bush 151 and the plate 152. The spring support parts 151e and 152e are concave parts indented axially outward on the axial inner side surface of each member and support the small spring 161 on its outside in the axial direction and both sides in the rotational direction. In other words, both ends of the small coil spring 161 in the rotational direction are supported by both ends of the spring supports 151e and 152e in the rotational direction. The window opening 108e can be provided connective with the second window opening 144 or independently. --

Please replace paragraph [0045] beginning on page 28 with the following rewritten version:

-- The fourth rotational direction gap 138 is the torsional angle until the first elastic member 130 starts to be compressed on the negative side of the torsional characteristics. The torsional angle of the fourth rotational direction gap 138 is expressed as θ_6 , and the specific value of θ_6 is preferably [[9]] 11 degrees. If the value of the torsional angle of the region where the first elastic member 130 is compressed is named θ_3 , then θ_6 is $\theta_2 - \theta_3$. Consequently, the second stage of the negative side of the torsional characteristics includes the third region (2 – 11 degrees) where only the second elastic members 131 are compressed and the fourth region (11 – 13 degrees) which is a region larger than the third region and in which both the first elastic members 130 and the second elastic member 131 are compressed

in parallel, thus achieving the multiple stage feature in the second stage of the negative side of the torsional characteristics. --

Please replace paragraph [0048] beginning on page 29 with the following rewritten version:

-- The rotational direction gap 133 is a rotational direction gap to prevent the torque of the second elastic member 131 from acting on the second friction generating unit 171 on the negative side second stage of the torsional characteristics. The torsional angle of the rotational direction gap 133 is θ_4 , and the value of θ_4 in this embodiment is preferably $[[4]]$ 1 degrees. --

Please replace paragraph [0051] beginning on page 30 with the following rewritten version:

In the region where the torsional angle is the smallest, only the first damper mechanism 159 operates. More specifically, the small coil spring 161 is compressed in the rotational direction between the bush 151, the plate 152, and the flange 108. At this time, the plate spring 162 slides over the wall, thus being movable in the rotational direction, of the groove 151f of the protruding part 151a being pressed or pushed by the rotating direction wall of the radial direction concave part 164a. Thus, the plate spring or member 162 is configured to pushed by the first rotating member or hub 106, and be movable in the rotational direction when pushed. When the rotating direction R1 side edge of the concave part 164a abuts the rotational direction R1 side edge of the protruding part 151a, the motion of the first damper mechanism 159 stops. In order for this to happen, the plate spring or member 162 must be elastically deformed. Moreover, when this torsional angle is θ_{17} , the

rotating direction support part 165 of the first window opening 143 on the rotational direction R1 side abuts the rotational direction R1 side edge of the first elastic material 130, and the concave part 165a abuts the bent tongue 152b of the plate 152. From thereon, the bent tongue 152b is kept pressed onto the concave part 165a by the rotational direction R1 side edge of the first elastic member 130.

Please replace paragraph [0053] beginning on page 31 with the following rewritten version:

-- In the positive side of the torsional characteristics, the bent tongues 152b of the intermediate rotational member 110 are constantly pressed against the rotating direction support part 165 of the first window opening 143 on the rotation direction R1 side by the first elastic members 130 when minute torsional vibrations enter the clutch disk assembly 101. Therefore, in the region where only the second damper 160 operates, the intermediate rotating member 110 cannot rotate relative to the flange 108, and the elastic forces of the elastic members 130 and 131 consistently act on the second friction generating unit 171 via the intermediate rotating member 110 even when minute vibrations are being inputted. In other words, when the input rotating member 102 and the output rotating member 103 rotate relative to each other, the second friction generating unit 171 consistently acts and generates high hysteresis torque on the positive side of the torsional characteristics. --

Please replace paragraph [0058] beginning on page 33 with the following rewritten version:

-- Next, with reference to a torsional diagram shown in Fig. 13, the torsional characteristics will be described for various torsional vibrations entering clutch disk assembly

[[1]] 101. When a torsional vibration with large amplitudes such as the forward/backward vibration of a vehicle occurs, the torsional characteristics go through repetitive variations over both the positive and negative sides. In this case, the forward/backward vibrations will be attenuated quickly through hysteresis torque that develops on both the positive and negative sides. --

Please replace paragraph [0060] beginning on page 34 with the following rewritten version:

-- Since a rotational direction gap for preventing the second friction generating unit 171 from operating within a specified angle is not provided on the positive side of the torsional characteristics, the noise and vibration performance in the vicinity of resonance rpm does not deteriorate, for example, on a FF, front engine and front drive, car, in which it is rather difficult to eliminate resonance peaks completely from the practical rpm range. Since rotational gaps are provided for preventing the friction mechanism from operating within a specified angle only on one of the positive and negative sides of the torsional characteristics, the noise and vibration performances in both acceleration and deceleration improve. As described above, the damper mechanism according to this invention not only uses different torsional rigidities on the positive and negative sides of the torsional characteristics, but also has a structure that prevents high hysteresis torque against minute torsional vibrations on one side of the torsional characteristics, preferable torsional characteristics can be achieved as a whole. --